

FIBERIZING APPARATUS AND METHOD

ABSTRACT

A fiberizing apparatus for converting molten material into continuous fibers has an internal support structure to minimize high temperature creep and sagging of a tip plate, the reinforcing structure forming at least about 16 internal cells. The hole pattern in a bushing screen is engineered such that the hole area in each screen area above each of the at least 16 cells controls the amount of molten material flowing into each cell to produce a substantially improved tip plate temperature profile and fiberizing efficiency. The preferred internal support structure is welded to the sidewalls and/or and the top surface of the tip plate and is comprised of a plurality of internal intersecting supports that form various patterns including a diamond shaped structure. The screen used in the preferred bushing has a plurality of diamond shaped hole patterns, some with different hole area per unit screen area than that of other screen areas. A method of making the bushings and a method of fiberizing a molten material using the fiberizing apparatus is also disclosed.